

### **REMARKS/ARGUMENTS**

Claims 22, 31, and 39 are amended; claims 40-43 are new; claims 22-43 are pending in this application, upon entry of the amendment. No new matter is introduced by way of the amendment. Support for the amendment can be found, for example, in Fig. 2 and on page 8, lines 16-22, and page 7, lines 26-33 of the originally filled application.

### **Claim Rejections - 35 U.S.C. §103**

Claims 22-39 were rejected under 35 U.S.C. §103(a) as being unpatentable over U.S. Patent 5,219,472 to Elonen, et al., in view of Chemical Pulp by Gullichsen. Applicants respectfully traverse the rejections in view of the comments below.

Elonen and Gullichsen, do not teach or suggest, neither alone nor in combination, *inter alia*, “pumping the degassed at least medium consistency pulp towards screening” and “diluting the pulp to the screening consistency after the gas separation and prior to a first screening stage”, as required by amended claim 22, and similarly by amended claim 31. Elonen, does not recite pumping the degassed at least medium consistency pulp towards screening and does not recite diluting the pulp to the screening consistency after the gas separation and prior to a first screening stage.

On page 3 of the present Office Action, the Examiner recites, “The examiner argues that ELONEN states that a *degassing/deaerating pump* is used preceding the screen plant [column 4 lines 55-58]. ELONEN states that ‘*throughout the specification*’ a *deaerating pump*’ or ‘*degassing pump*’ is used to mean a centrifugal pump. ELONEN then states that both MC pumps and AHLSTAR pumps are suitable pumps [column 1 lines 48-68]”. While those general statements may be correct, the Examiner’s conclusion, “[a]s for Claim 22, 30, 31, and 39, ELONEN discloses a method wherein pulp from oxygen treatment is sent [column 1 lines 30-40 and figure 2 (2)] to a degassing medium consistency pulp by way of a degassing MC pump [column 1 lines 59-61] wherein the pulp is degassed (top of page 3 of the present Office Action)” is not correct because the preferred embodiment does not recite an MC pump.

Elonen is not directed to treating pulp prior to screening only but rather to treating pulp prior to "one of a washing, screening and thickening stage" (see claim 1 of Elonen, emphasis added). A person of ordinary skill in the art would therefore select the type of pump depending on the feed consistency of the subsequent process stage. For example, the requirements for the feed consistency of a washing apparatus range from a few percent to close to ten percent depending on the apparatus used. Thus, an AHLSTAR pump is preferably used when the required feed consistency of the washing apparatus is below 6%-8% and an MC pump is required when the feed consistency is above 6%-8%. Between 6% and 8% both pump types may be used depending on additional considerations. Elonen consequently states that 'throughout the specification' a 'deaerating pump' or 'degassing pump' is used to mean a centrifugal pump and Elonen further states that both MC pumps and AHLSTAR pumps are suitable pumps [column 1 lines 48-68]. This statement is a general statement which, however, does not mean that both pump types are equally well suited for every pulp treatment application.

Elonen further recites, "The present invention will be described in the following and more detail with reference to the accompanying drawing, in which:...FIG. 2 is a schematic illustration of a screening stage used in connection with an oxygen bleaching process according to a preferred embodiment of the present invention;..." (Col. 4, lines 9-17, emphasis added). Accordingly, the AHLSTAR pump as described with reference to Fig. 2 is the preferred embodiment. A person of ordinary skill in the art, given the choice, would, of course, use the preferred type of pump as recited by the prior art.

Second, the embodiment shown in Fig. 2 and described in the specification, col. 4, line 40 to col. 5, line 9 of Elonen includes a degassing pump 13 for pumping pulp into a screening plant 4. Elonen states that a suitable pump is the AHLSTAR pump (col. 5, lines 6-10). This statement is clearly made in the paragraph directed to deaerating and/or degassing pumps 13 and 14 of Fig. 2, i.e., the statement that a suitable pump is the AHLSTAR pump is made in connection with pumping pulp into a screening plant. Elonen does not give a hint at providing a MC pump in the embodiment shown in Fig. 2 for pumping pulp into a screening plant. The conclusion that "ELONEN discloses a method wherein pulp from Oxygen treatment is sent [column 1 lines 30-40 and figure 2 (2)] to a degassing medium consistency pulp by way of a

degassing MC pump [column 1 lines 59-61] wherein the pulp is degassed (top of page 3 of the present Office Action)” is pure speculation based on hindsight because it is not correct to intermix the boilerplate statement from [column 1 lines 59-61] with the preferred embodiment of Fig. 2 (see preceding paragraph above).

Third, Elonen does not explicitly disclose pulp consistency. It is, however, known that screening is done at a preferred consistency of 1% to 3% (see current claim 30 of the present application) or at a consistency of 2% (see Gullichson, page A128). The statement of Elonen with respect to the preferred embodiment shown in Fig. 2, that a suitable pump is the AHLSTAR pump (col. 5, lines 6-10), is therefore consistent with the pulp consistency at which screening is preferably done because an AHLSTAR pump may be used up to a pulp consistency of 6% to 8% maximum.

Elonen does not give a hint at doing screening at medium consistency or at diluting the pulp after pumping and degassing and prior to the first screening stage. Moreover, a person of ordinary skill in the art would not use an MC pump instead of an AHLSTAR pump because an MC pump is a high-cost pump while an AHLSTAR pump is low-cost type. The statement “[a]lternatively, it would have been obvious to use a MC pump instead of an AHLSTAR pump (page 3 of the present office Action)” is therefore not correct.

Forth, in the embodiment shown in Fig. 2 of Elonen a second pump 14 is interposed into conduit 16 for deaerating the added water (col. 4, line 51-53). Elonen does, however, not disclose, where the water is added in the screening plant 4 and, in particular, Elonen does not give a hint at adding water after pumping and degassing and prior to the first screening stage. Elonen discloses only that the water from the second pump 14 is not added to the pulp in conduit 15 (see Fig. 2). The water may, e.g., be added in the screening plant 4 in order to wash out the screening reject remaining after a screening stage which is common in screening plants.

Gullichson teaches on page A128 that the screening room is fed at 2% pulp consistency and that pulp is in medium consistency (10% -15%) before screening. In the Office Action it is held “[t]his gives further evidence that it is known to those of ordinary skill in the art to pump stock at medium consistency prior to dilution to a screening consistency (page 4)”. The

method and place of the dilution is, however, not taught on page A128. The only indication regarding dilution can be found in Fig. 116 which shows that the pulp from the drum displacement washer is discharged into a dilution vessel like the one shown in Fig. 1 of the present application. I.e., if there is any teaching regarding dilution of pulp prior to screening on page A128 of Gullichson this teaching indicates dilution in a dilution vessel after the drum displacement washer as shown in Fig. 1 of the present application, i.e. prior to pumping.

With regard to Fig. 14 on page A622 of Gullichson the arguments presented by Applicant in the response of December 8, 2008 are corrected. Fig. 14 does show a degassing point, the MC pump system provided after the discharge scraper, but Fig. 14 does not show a dilution point. Thus, a person of ordinary skill in the art would assume that dilution takes place in the discharge scraper prior to the MC pump as indicated in the response.

In the current Office Action it is held that “[d]ilution which decreases chemical consistency occurs in the AHL MIX located after the MC pump” (page 8). An AHL MIX chemical mixer is able to mix gaseous chemicals such as O<sub>2</sub> and Cl<sub>2</sub> as well as liquid chemical such as NaOH into pulp (see Fig. 24 on page A627 of Gullichson). An addition of gaseous chemicals does, however, not change the consistency of the pulp while a typical addition of 2% NaOH decreases pulp consistency by 0.25%. Even when larger amounts of steam are added to medium consistency pulp the condensed steam does not decrease pulp consistency by more than 0.2% to 0.5%.

In the Office Action it is further held that “[a]dditionally there will be at least some dilution of the pulp from seal water which is necessarily used in the MC pump for proper operation (page 8)”. The seal water will, however, decrease pulp consistency by less than 0.1%. Thus, the different “dilutions” after pumping mentioned on page 8 of the Office Action are at least an order of magnitude below the dilution required in the present application where medium consistency pulp is diluted to screening consistency of typically below 3% after the gas separation and prior to the first screening stage.

As shown above, Elonen and Gullichson do not teach “pumping the degassed at least medium consistency pulp towards screening” and “diluting the pulp to the screening consistency after the gas separation and prior to a first screening stage” and both do not contain a

hint at such a process. Claim 22 and claim 31, and all claims dependent therefrom, are therefore not made obvious by Elonen in view of Gullichson.

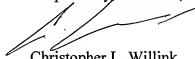
The method of and the arrangement for transferring pulp claimed in the present application have the advantage that gas can more efficiently be removed from the pulp. According to the applicant's finding gas is more easily separated from pulp when the consistency of the pulp is higher. This applies up to a consistency of at least 12% to 15%.

### CONCLUSION

In view of the foregoing, Applicants believe all claims now pending in this Application are in condition for allowance and an action to that end is respectfully requested.

If the Examiner believes a telephone conference would expedite prosecution of this application, please telephone the undersigned at 415-576-0200.

Respectfully submitted,



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